SUPREME COURT OF THE UNITED STATES.

No. 254.—October Term, 1934.

Paramount Publix Corporation, Petitioner, *vs.* American Tri-Ergon Corporation.	Petition for Writ of Certiorari to the United States Circuit Court of Appeals for the Second Circuit.

[March 4, 1935.]

Mr. Justice Stone delivered the opinion of the Court.

In this case certiorari was granted, 293 U. S. —, to review a decree of the Court of Appeals for the Second Circuit, 71 F. (2d) 153, which held valid and infringed the process patent of Vogt and others, No. 1,825,598, of September 29, 1931, "for producing combined sound and picture films." It reversed the district court, which had held the patent invalid for anticipation and want of invention. 4 F. Supp. 462. The several claims involved relate to a method of producing a single photographic film by printing upon it a picture record and a sound record from separately exposed and developed negatives. The positive film thus produced is useful and extensively used in reproducing sound and picture records in the exhibition of "talking moving pictures."

The respondent, who was the plaintiff below, is a patent holding company, and acquired the patent by assignment. The petitioner, who was the defendant below, is a producer of motion pictures, and the defense of the present suit has been conducted on its behalf by the Electrical Research Products, Inc., a subsidiary of the Western Electric Company.

In order that the precise nature of the claims may be understood, it will be necessary first to describe briefly the procedure and the mechanisms employed in recording and reproducing talking motion pictures, although neither is embraced in the claims of the patent. Several methods have been devised for recording sound and reproducing it in connection with the exhibition of motion pictures. A familiar one is the disc system, by which the sound vibrations are mechanically recorded upon and reproduced from

discs by a stylus, which receives the sound virbations for recording and transmits them from the disc to a loud speaker in reproducing the sound.

Another method, important here, is the photographic film system, in which the sound vibrations are recorded upon a photographic record. In the typical procedure, used by the petitioner, the sound waves to be recorded are received by a microphone so devised as to produce variable electric currents whose variations correspond to the variations in the sound waves received. The electric currents thus produced are amplified and transmitted to two metal threads, arranged side by side so as to form a narrow slit about 1 1000 of an inch in width, called a light valve. The current produces vibration of the metal threads with consequent variation of the light passing through the valve exactly corresponding to the sound vibrations to be recorded. In recording sound, a moving sensitized photographic film is exposed to a beam of light passed through the vibrating light valve which is activated by the electric currents varying according to the sound vibrations. The exposed film is then developed and the "sound record" thus produced is printed from it upon a positive film, where it appears as a series of short parallel lines of varying light density, corresponding to the sound vibrations, which have controlled in turn the variation in the electric current passing to the light valve and the corresponding variations of light passing through it to the sensitized film.

In reproducing the recorded sound the procedure is reversed. The positive sound film is passed before a light slit, from which the light passes through the sound record film to a photoelectric cell, which is devised to produce a variable electric current corresponding to the light variations caused by the moving record film. The electric current thus produced is amplified and passed to a loud speaker, where it is translated into sound vibrations.

Successful operation of the talking motion picture involves synchronization of the sound and picture records. The difficulties of synchronization are obvious where the recorded picture and sounds are separately reproduced by independent mechanisms. Success has been achieved, and convenience in use of the two records secured, by uniting them upon a single positive film and passing it at the requisite uniform speed through a single ap-

paratus designed to reproduce both the sound and the picture. A familiar method of securing the two records on a single film is by photographing simultaneously the picture record and the sound record side by side upon the same strip of film and then printing from the developed negative a single positive film. This method was disclosed in the Haines, British Patent, No. 18,057, of 1906; in the Ries Patent, U. S. No. 1,473,976, of 1923, applied for in 1913; in the French patent to MacCarty, No. 448,757, of 1912; and in the Walker Patent, U. S. No. 1,186,717, of 1916. Another method is by mechanically uniting the two positive records, as by cementing them together, after they have been separately printed from negatives separately exposed and developed. This was disclosed by the Bullis Patent, U. S. No. 1,335,651, of March 30, 1920, applied for in 1915. A third method, which is that claimed by the patent in suit, is by printing the two records on a single positive film from separately exposed and developed negatives.

In petitioner's practice separate photographic films, moving at uniform speed, are separately exposed, so as to record a scene and the accompanying sounds, and are then separately developed. The two records are then printed, side by side, on a single positive film, used for reproducing the picture and the sound. In the typical reproducing apparatus the film passes successively through the picture projector and the mechanism for sound reproduction. Accordingly, synchronization is accomplished by arranging the two records on the positive film in such relative positions that the two records will simultaneously reach the two mechanisms for reproducing them, so that the reproduced sound will accompany the reproduced scene of the picture as it did when they were recorded.

The specifications of the patent state broadly that it is of great advantage to arrange the sound record sequences and the picture record sequences on a single film. They then describe the technical difficulties in developing the negative when the sound and picture records are photographed on a single film. They point out that the picture record is made under changing light conditions, which may result in over or under exposures, which will require correction and a treatment in the development of the negative different from that suitable to the sound sequence, which is recorded under different light conditions. It is said that it is practically impossible to secure the variations in treatment required for developing the two types of record where the two sequences, picture and sound, are

photographed upon the same film strip. The specifications then describe the invention as follows:

"According to the present invention the difficulty is overcome by either employing entirely separate films for the simultaneous photographing of the sound and picture negatives, or films which are connected during the photographing, but which are separated from one another before the developing, then separately developing the negatives if and in the manner required to remedy the difficulties, and then printing both sequences—picture and sound—on the different portions of the same positive film."

Respondent relies on Claims 5 to 9, inclusive, and Claim 11 of the patent, of which it is agreed Claim 5 is typical. It reads as follows:

"A process for producing a combined sound and picture positive film, for talking moving pictures, comprising photographing a sequence of pictures on one length of film, and simultaneously photographing on another length of film a corresponding sequence of sounds accompanying the action, separately developing the two negatives in a manner appropriate for each, and printing the sound and picture negatives respectively upon different longitudinally extending portions of the same sensitized film, to form the sound sequences at one side of and along the picture sequence."

It will be observed that the claimed method or process is for combining sound and picture records on a single film and comprises three steps: first, the simultaneous photographing of a picture record and a record of the accompanying sound, each on a separate negative; second, the separate development of the two negatives in a manner appropriate to each; and third, the printing, either simultaneously or successively, from the two negatives of the sound record and the picture record side by side on a single positive film.

It is important to indicate the more significant features of the sound reproduction procedure and mechanisms which are not embraced in the claims. The patent does not claim either a method or a device for recording or for reproducing sound, or a method of synchronizing the two records, or the use of a single film in the reproduction of combined sound and picture records, or any method or device for printing the positive record from the two separate negatives.

While the claims speak of a process or method for producing a combined sound and picture positive film, it is obvious that the

process described and claimed has no necessary connection with sound reproduction. The positive film bearing the combined sound and picture records is a product of the photographic art. The method claimed for producing it relates exclusively to that art. It is neither a method of sound recording or sound reproduction. It claims only a process every step in which is an application of the art of photography: simultaneous exposure of the negatives, their separate development, and printing from them a single positive film. The process is as applicable to any other form of photographic record as to a photographic sound record. It is as effective in the production of the one as the other. Its importance to the sound picture industry arises only from the fact that the single film, bearing the two records, for which no patent is claimed, is of great utility in that industry.

An examination of the prior art can leave no doubt that the method, as thus described and clearly restricted by the patent, lacks novelty and invention. The only step in respondent's method, for which any advance could be claimed over earlier methods, is the process of uniting two records on a single positive film by printing them from separate negatives. The Bullis Patent, already mentioned, and the Craig Patent, U. S. No. 1,289,337, of 1918, had shown the simultaneous exposure and separate development of sound and picture films, the advantages of which, as well as the advantages of the double record on a single film, were well known. The claim to invention is thus narrowed to the single contention that the patentees secured the benefit of these well known advantages by resort to the added step of uniting the two separate photographic records, sound and picture, by printing them on a single film.

The practice of printing separate photographs from separately developed negatives upon a single positive film has long been known to photographers. Standard photographic dictionaries, published here and abroad between 1894 and 1912, describe the procedure for "combination printing" of a single positive picture from separately developed negatives.[1] The procedure is shown to have been followed in the laboratories of the Eastman Kodak Com-

[1]Wilson's Cyclopaedic Photography, published by Edward L. Wilson, New York, 1894; Encyclopaedic Dictionary of Photography, by Woodbury, published by Scovill & Adams Co., New York, 1896; Konig, published by Dawbarn & Ward, Ltd., London, 1906; Cassell's Cyclopaedia of Photography, by Jones, published by Cassell & Company, Ltd., 1912. (The references, with

pany for many years prior to April, 1921, the date claimed for the present patent, and before that date the Company had made special materials for use in combination printing.

The practice was also well known in the motion picture industry. In 1908 the American Mutoscope & Biograph Company made and released in the United States a motion picture, *The Music Master*. This picture was prepared by separately photographing two scenes. From the separately developed negatives a positive was printed, showing the two pictures on the same strip of film, from which the motion picture was reproduced. The British Downing Patent, No. 6,727, of 1913, discloses methods and apparatus for producing motion pictures, accompanied by printed words used by the actors, the two records being printed on a single positive film from separately exposed and developed negatives. The Messter Patent, U. S. No. 1,286,383, of 1918, and the British Patent, No. 21,467, issued to Rossi in 1909, each discloses a method of printing two separately exposed picture records on a single film. The Craig Patent, already mentioned, calls for separate exposure and development of sound and picture negatives, simultaneously recorded, and their printing on opposite sides of a single film. The Greensfelder Patent, U. S. No. 1,254,684, of 1918, discloses a method for printing, from separately exposed and developed negatives, a sound record and a picture record on the same side of a single positive film. The function of the sound record differed radically from that contemplated by respondent's patent, but this is immaterial so far as its printing is concerned, in which the Greensfelder patent does not substantially differ from that in suit. While these patents did not specifically mention the separate development of the negatives of the two records, it appears that they were photographed separately upon separate negatives, and the record shows that at their dates the state of the art was such as to require separate development of the two negatives. The practice and advantage of separate development are also shown to be well known. This and other evidence in the record abundantly supports the finding of the trial court court that as early as 1908 it was common practice in the motion picture

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quoted portions of the texts, were made a part of the record by stipulation.) The publication last mentioned states that "combination printing had its origin in 1855, when Berwick and Annan, of Glasgow, exhibited a picture printed from two different negatives—a figure and a landscape;" numerous later examples of the practice are given.

industry to print, on standard positive film, composite pictures from separately developed negatives.

The simultaneous photographing of sound and picture records was not novel, separate development of the negatives was well known, the advantage of uniting the two records, sound and picture, on a single film was well known, and the method of uniting two photographic picture records by printing them from the separate negatives was well known.

This use of an old method to produce an old result was not invention. See *Electric Cable Co.* v. *Edison Company*, 292 U. S. 69, 80, and cases cited. Even if it be assumed that the Greensfelder patent did not anticipate that of respondent, because the sound record there mentioned was designed directly to operate musical instruments, rather than a loudspeaker, all that was novel in the claimed method was its application in the production of a combined sound and picture record, instead of a combination of two picture records. To claim the merit of invention the patented process must itself possess novelty. The application of an old process to a new and closely analogous subject matter, plainly indicated by the prior art as an appropriate subject of the process, is not invention. *Brown* v. *Piper*, 91 U. S. 37, 41; see *Pennsylvania Railroad Co.* v. *Locomotive Truck Co.*, 110 U. S. 490, 494; *Dreyfus* v. *Searle*, 124 U. S. 60, 64; *Concrete Appliances Co.* v. *Gomery*, 269 U. S. 177, 184, 185. However wide the differences between the procedures and results of sound reproduction from film on the one hand, and picture reproduction on the other, the method of producing photographic sound and picture records and uniting them on the positive film are identical, for both sound and picture records, from the time of exposure of the negatives until the single film is completed. With knowledge of the well understood advantages of the union of the two records on a single film, it required no more than the expected skill of the art of photography to use an old method of printing photographically the two negatives upon a single positive.

Against this conclusion respondents throw the weight of voluminous evidence, showing the practical utility and widespread use of the patented process, which prevailed with the court below as sufficient to establish invention. It is said that, however simple and obvious the method may appear to be now that it is in suc-

cessful use, no one before the patentees had used it for producing the union of a sound and a picture record. Respondents also allege that the positive film produced by its method is more useful than any it had been possible to produce by other methods, and that it has found all but universal acceptance. These considerations, it is urged, should turn the scale in favor of invention.

Laying aside the objection that it is only when invention is in doubt that advance in the art may be thrown in the scale, *DeForest Radio Company* v. *General Electric Company*, 283 U. S. 664, 685; *Smith* v. *Dental Vulcanite Co.*, 93 U. S. 486, 495, 496, we think the evidence of utility and prompt acceptance of the patented method, in the circumstances of this case, adds little weight to the claim of invention. The greater utility of respondent's film over those effecting the union of the two records by other methods does not establish the novelty of the method. Evidence of great utility of a method or device, it is true, may in some circumstances be accepted as evidence of invention. Where the method or device satisfies an old and recognized want, invention is to be inferred, rather than the exercise of mechanical skill. For mere skill of the art would normally have been called into action by the generally known want. See *Loom Co.* v. *Higgins*, 105 U. S. 580, 591; *Krementz* v. *S. Cottle Co.*, 148 U. S. 556, 560; *Hobbs* v. *Beach*, 180 U. S. 383, 392; *Carnegie Steel Co.* v. *Cambria Iron Co.*, 185 U. S. 403, 429, 430; *Expanded Metal Co.* v. *Bradford*, 214 U. S. 366, 381.

But the state of the motion picture art, as it is disclosed by the present record, indicates that there was no generally recognized demand for any type of film record, for the reproduction of sound to accompany motion pictures, until after the present patent was applied for. See *Hollister* v. *Benedict & Burnham Mfg. Co.*, 113 U. S. 59, 73. Compare *McClain* v. *Ortmayer*, 141 U. S. 419, 428; *Grant* v. *Walter*, 148 U. S. 547, 556.

Before 1926 motion pictures were silent and there was no convincing evidence that the public would prefer the sound picture. In that year Warner Brothers exhibited sound pictures produced by the disc system, provided by the Western Electric Company. At that time the Company had for some years been experimenting with both film and disc systems for recording sound, and it had electrically recorded disc phonographic records which were in commercial use. The addition of sound on disc to motion pictures

involved merely the attachment of the phonographic type of turntable to the ordinary motion picture projector, without any extensive modification of the projector or the film printing machines then in use, as was later necessary in order to employ the film method. Moreover, as has already been indicated, skilfully devised mechanisms were required for successfully recording and reproducing sound by the film method, a problem distinct from any method of uniting the sound and picture records upon a single film.

Until these appliances were perfected there could be no pressing and generally recognized demand for the sound film. It was not until after the public interest in sound pictures was disclosed, in the summer of 1926, that the mechanism for recording and reproducing sound by the film method was carried to a state of perfection which would warrant its production in commercial form. The light valve was produced in commercial form in December, 1926, and the first installations were in 1927. A rival system, of the Fox Case Company, for recording and reproducing sound by film, was not not brought to completion until after 1926. Other problems engaging the attention of experimenters in this field were the necessary improvement of the photo-electric cell, the devising of suitable emulsion for sound negatives, of apparatus for "mixing" the sound to be recorded, and the mechanical perfection of the apparatus for reproducing sound from film. See Nos. 255, 256, *Altoona Publix Theatres, Inc., et al.* v. *American Tri-Ergon Holding A. G.*, decided this day.

Thus there is no basis shown by this record for the contention that advance in this phase of the motion picture industry was awaiting the development of the combined sound and picture record upon a single positive film. On the contrary, the inference seems plain that the advance awaited the public acceptance of the sound motion picture; that when the public demand became manifest it was still necessary to develop suitable mechanisms, not embraced in the patent, for the reproduction of sound from film. There had long been, ready at hand, knowledge in the photographic art which would enable one skilled in the art to produce the film suitable for use in the new apparatus. Indeed, at some time before 1924, Wente, engaged in research on sound film apparatus for the Western Electric Company, without any knowledge of the work of the patentees of the present patent, had prepared the com-

bined sound and picture positive film by printing it from separate negatives, separately exposed and developed.

The bare fact that several inventors, in the early stages of sound reproduction, working independently, of whose knowledge and skill in the photographic art we know little or nothing, failed to resort to a method, well known to that art, for printing a combination film for which there was then no generally recognized need, does not give rise to the inference of invention.

The court below also rested its decision on the ground that the petitioner is estopped to deny the validity of the patent by the application of Wente, April 8, 1924, who was in the employ of the Western Electric Company, for a patent for an improvement in recording and printing the sound record film, which contained claims broad enough to include the method claimed by respondent. These claims were rejected by the Patent Office as reading on the British Patent 178,442 of the present patentees, and the Greensfelder patent, already mentioned. However inconsistent this early attempt to procure a patent may be with petitioner's present contention of its invalidity for want of invention, this Court has long recognized that such inconsistency affords no basis for an estoppel, nor precludes the court from relieving the alleged infringer and the public from the asserted monopoly when there is no invention. *Haughey* v. *Lee*, 151 U. S. 282, 285.

Reversed.

Mr. Justice BRANDEIS took no part in the consideration or decision of this case.

A true copy.

Test:

Clerk, Supreme Court, U. S.